



Babies Remember Birth

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hat do you see when you look at a newborn baby, bright-eyed, gazing straight at you? Is there really a person there? Silently frowning or beet-red with rage, can this baby think and feel? For its small size, a newborn makes a powerful, compelling noise, but is it actually saying anything?

Until recently, there were many theories about newborns but few known facts. For uncounted centuries, infants have been separated from the rest of us by a veil of ignorance. As close as we have been to them, we did not know how amazing they are. Common wisdom about babies was based on the obvious limitations of their size, weight and muscle power.

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Consequently, babies were described as sometimes adorable but incapable, subhuman, pre-human, dull and senseless, and treated as such. Twentieth-century science has held that infant cries were only “random” sounds, their smiles only “gas,” and their expressions of pain simply “reflexes.” Misinformation about the newborn has made parenthood more difficult and infancy more miserable.

A brighter future has been dawning for infants. In the last 35 years, research on the newborn has flourished. An unprecedented combination of interest in infants, investment of large sums of public and private money, and innovative methods of study has resulted in new information, much of it surprising. Contributions to our widening knowledge of the newborn come from diverse fields of science from embryology to psychology.

Leading researchers now sing the praises of infants. Harvard’s Berry Brazelton calls them “talented”; Hanus Papousek, a German pioneer in infant studies, calls them “precocious”; famed pediatrician Marshall Klaus calls them “amazing.” Professor T.G.R. Bower, one of the most innovative of all infant researchers, declares that newborns are “extremely competent” in perception, learning and communication.

Babies have come of age in the 20th century. Because so much has been discovered and momentum is still building, I think this will prove to be the century of the newborn, the time when we finally reach a full and factual knowledge of who they are. At the beginning of the last century, only a handful of scientific papers about infants could be counted worldwide. By mid-century, almost 500 could be cited. In the 1960s and 1970s, serious reviews of this literature suddenly had to cover at least 2,000 books and papers. This information explosion continues. Infants have been measured inside and out, filmed with cameras permitting analysis down to microseconds, watched for hours on end, and tested in clever experiments. Results show that they pick up information constantly and learn from their experiences much as we do.

One of the exciting aspects of this new knowledge is the verification of infant abilities at earlier and earlier ages. Timetables estimating the ages at which particular talents are expected to appear have had to be revised again and again, bringing them closer to birth. Many abilities are innate and adult-like, surprising



investigators and ruining theories. A fundamental rule of developmental psychology—that all complex behaviors must start as simple behaviors and develop gradually—has become obsolete. Surprisingly, many behaviors start out complex. The truth is, much of what we have traditionally believed about babies is false. We have misunderstood and underestimated their abilities. They are not simple beings but complex and ageless, small creatures with unexpectedly large thoughts.

Babies know more than they were supposed to know. After only minutes of repeated exposure to its mother’s face after birth, a baby can pick her out from a gallery of photos. Babies recognize the gender of other babies, even when cross-dressed, provided they are moving—something adults cannot do. They are mentally curious and eager to learn. Consider how smoothly the senses are coordinated at birth: eyes turn with the head in the direction of a sound; hands go up to protect eyes from bright light; the first time at the breast, the baby knows how to suckle and breathe in perfect synchrony; they shriek and pull away from a heel lance.

The territory of life before birth has also been charted as never before. Through the wizardry of the scanning electron microscope, fiber optics and special lenses, ultrasound imaging, and other measuring



devices and laboratory techniques, we now have a comprehensive picture of development of all parts of the physical system before birth. These discoveries have added to our understanding of the baby's many talents.

Neuroscientists have discovered the timetable for development of the entire nervous system. For example, studies show that the sense of taste begins functioning around 14 weeks after conception, and the sense of hearing around 20 weeks. After only eight weeks of gestation, stroking the baby's cheeks with a fine hair produces consistent reactions indicating that tactile sensitivity has already been established. During gestation, all the structures are set in place that will enable the newborn to use the sense of smell as well as any adult. Similar preparations are made for use of a wide range of visual talents. Learning before birth has even been demonstrated in many experiments.

A host of scientific discoveries provides formal verification of what many parents and grandparents have known all along: Newborns are real persons. Parental enthusiasm about newborn abilities used to be dismissed as vanity, bias or hallucination. Now science confirms that infants are social beings who can form close relationships, express themselves forcefully, exhibit preferences, and begin influencing people from the start. They are capable of integrating complex information from many sources and, with a little help from their friends, begin regulating themselves and their environment.

Myths about Newborns

1. *Babies Don't Feel*

Some nurses and doctors are still telling parents that babies don't really feel things—that they will not suffer during medical procedures, or miss their mothers if taken away to a nursery. Anesthetics have not been considered necessary for infants undergoing surgery. Hospital delivery rooms, obstetrical instruments, and medical routines were all designed before babies were thought to have senses, and thus with no regard for babies' comfort. Rooms are frigid, lights blinding, surfaces hard and flat, the atmosphere noisy, the handling of newborns too upsetting. Newborns are routinely traumatized and punctured.

Generation after generation, an unlucky majority of American male babies have been subjected to circumcision for dubious medical, religious, cultural, and cosmetic reasons. I can only assume that parents have tolerated this in the mistaken belief that the baby will not know he is being tortured. He will.

Babies considered unable to feel are easily victimized; they become non-persons with minimal rights. An earlier, more deadly, form of this view provided justification for infanticide (mostly female), practiced widely through most of human history. In modern times child abuse, the once-secret violence of parents, is exposed to public view. Infants may be the last large category of persons to be fundamentally misunderstood, discriminated against and abused.

NOW SCIENCE CONFIRMS THAT INFANTS ARE SOCIAL BEINGS WHO CAN FORM CLOSE RELATIONSHIPS, EXPRESS THEMSELVES FORCEFULLY, EXHIBIT PREFERENCES, AND BEGIN INFLUENCING PEOPLE FROM THE START.

In 1975 French obstetrician Frederick Leboyer called for a new approach in *Birth Without Violence*. His colleagues denied the need for change and publicly recited the myth that babies do not really feel or care. The newly discovered truth is that newborn babies have all their senses and make use of them just as the rest of us do. Their cries of pain are authentic. Babies are not unfeeling; it is we who have been unfeeling.

2. Very Poor Brains

Probably the most damaging myths about newborns are those about their brains. Reasoning from the gross anatomy of the brain at birth, scientists concluded that it was “primitive” and poorly developed. And, because it was only about one-quarter of its eventual weight and volume, it was incapable of “higher” functions of thinking, meaning, and memory.

For a hundred years this assumption has governed both medicine and psychology, supporting abuses in obstetrics and pediatrics that are accepted as a normal part of birth. Without a brain, babies could have no experiences, accumulate no history, possess no self-consciousness or intelligence—in effect, could not really be present. This myth has artificially delayed the beginning of active parenthood and prevented public recognition that newborns are persons. The reasoning is this: no brain, no person; no person, no need for parenting.

In retrospect, brain experts made one of the classic errors of science by dissecting the brain to find out how it works. The problem is that the brain works properly only if it is whole. Separate parts are not the system. Most serious was the error of severing the brain from its connections with two other systems, the endocrine and immune systems. Medicine officially divided the territory into three different specialties: neuroscience, endocrinology,

Technologic Birth

THE TECHNOLOGY INVOLVED IN BIRTHING TODAY includes an array of drugs and chemicals to start labor, provoke stronger contractions, provide sedation, kill pain, or to affect the uterus after birth. For the baby, drugs include everything given to, or taken by, the mother from conception through birth, and during breastfeeding after birth. Additional medication is put in the baby’s eyes immediately after birth. For many years physicians used a caustic solution of silver nitrate. After much consumer pressure they began to use a painless but vision-blurring antibiotic ointment. Babies are given antibiotics and other drugs during their hospital stay—perhaps even to counteract common hospital pathogens. Technology may mandate fetal scalp monitoring via an electrode screwed into the baby’s scalp while still in the birth canal, or delivery via vacuum extractor, an increasing practice now that the use of forceps is officially discouraged.

Even assuming an unmedicated, natural birth (which has become rare), a baby’s encounter with modern neonatal treatment will be painful. The light in the delivery room and in the nurseries is too bright, the noise level too high. A vitamin injection will pierce the skin and injure nerves and a deep heel wound will be made to withdraw a large sample of blood for testing. Physical handling will be rushed and disorienting, while compulsive wiping, washing, weighing and measuring all irritate. If the baby is not already crying, a cry must be provoked to obtain a full Apgar rating of newborn well-being!

All of these experiences tend to erode trust and work against a totally comfortable first engagement of mother and baby after the supreme effort of birth. More often than not, these offenses will be magnified by a period of isolation and observation in the hospital nursery, where nurses may give them bottles of sugar water, artificial milk formula, or pacifiers with plastic teats that bear little resemblance to the pliant, fragrant human nipple and breast. While in the hospital, all mothers and babies are on professional turf, where everything is regulated by hospital protocol, designed not for patients but for staff. Two separate staffs will look after baby and mother, in keeping with the technological view that they are separate entities once the umbilical cord is cut. Even in the most lenient hospital environments, parents must expect to insist upon continuous contact with their baby, as well as privacy, or they will not get it. These are the challenges of technologized birth which routinely greet a mother, father and baby...

The mental and emotional damage done by birth technology to infants in the last century has followed our babies into childhood and right into adulthood, and has made necessary the development of reconstructive therapies for body and mind. Today an array of these therapies is available, but they are costly remedies for problems that do not need to occur in the first place. An appropriate medical technology would take the radical step of returning to an earnest attempt to follow the dictum of the Hippocratic Oath: “Above all, do no harm!”

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and immunology. Current research shows that all three are elegantly linked in one fluid central intelligence system.

That the whole brain is more than its parts is illustrated by a debate that has lasted for decades over the myelin sheathing that insulates nerve fibers. I ran into this wall personally when I started to tell colleagues about the birth memories my clients were reporting. Their immediate reaction was that such memories were impossible because the myelination of nerve tracks was not complete at birth and therefore signals could not flow properly through the nervous system. The truth is that myelination begins in some places only a few weeks after conception but is not completed until adolescence. It is no measure of what a baby's brain can do.

3. *Assembly-Line Brain*

Another basic misunderstanding about the infant brain was that it was like an engine on an assembly line, not expected to work until the last part was installed. Compounding this error was a prejudice that the parts of the brain formed first were “primitive” and less valuable, while those added last were much more sophisticated and important. A half-truth at best, this theory has kept scientists and parents alike from appreciating intelligence before birth and has justified inhumane practices at birth. If the sophisticated, “advanced” parts of the brain were not yet developed, the reasoning went, the baby could not have meaningful experiences. Memory and learning were out of the question.

The cerebral cortex, the symmetrical left- and right-brain structures lying at the top of the skull, is formed last and does have those special convolutions, the latest evolutionary wrinkles that give humans a competitive edge over other creatures. However, it was false to conclude that the cortex was not working until finished and that the rest of the brain could not engage

in complex activity. Long before the completion of the cortex, complex systems for breathing, sleeping, waking, crying, spatial orientation, and movement are already functioning. The senses of taste, touch, smell and hearing are fully operative and coordinated. Even vision is advanced at birth, although the visual portion of the cortex is not yet fully developed.

4. *Babies Can't Think*

Until recently, brain experts generally agreed that the newborn, like the beloved storybook character Winnie the Pooh, was “a bear of little brain.” A recent book on the nature of the child by a noted Harvard psychologist says the cortex of the young infant resembles that of an adult rat!

With such poor equipment, how could a newborn think? Academic psychologists use big words to deny infant mental activity: pre-symbolic, pre-representational, pre-reflective. In other words, babies are without words and cannot think. This relates to another myth—that in order to think, you must have language. Recent investigations have shown that babies do a lot of thinking, with or without language. You will see evidence of this thinking when your newborn purposefully reaches out, gives an inquisitive look, frowns (or screams) in protest, gurgles in satisfaction, or gasps in excitement. Newborns also listen intently to their mothers reading stories and prefer to hear again those heard weeks before birth. And note this: They listen attentively as long as mother reads forward, but will stop listening as soon as she reads backward (nonsense)—another indication of good thinking.

More tellingly, infants are great dreamers, according to studies of brain waves. They dream much more than you and I do. Meticulous observation by scientists of infant body movements and facial expressions during dreaming shows that they act and look just like adults do when dreaming. How could they dream without thinking?

5. No Sense of Self

Without physical senses and a fully furnished brain, the myth goes, there can be no sense of self and of other selves. Psychoanalysts have declared that infants are “autistic” and unresponsive to social signals; they are not ready for relationships, certainly not for communication. “Solipsistic” was the word renowned Swiss psychologist Jean Piaget chose to describe newborns, meaning that they were out of touch with the outside world and totally preoccupied with themselves. This theory is no longer defensible. Although Piaget was a pioneering theorist in developmental psychology, he did not have the advantage of our present knowledge of newborns. He taught that it might take a newborn 18 months to escape from being “egocentric” and to regard himself as an object among others.

Students of Piaget continue to state this view. Boston psychologist Burton White wrote that newborns are helpless, cannot think, use language, socialize with another human, or even deliberately move about. He claims that for the first few weeks of life, a baby is not very interested in any aspect of the external environment.

If you accept this view, you will be discouraged from having intimate dialog with your newborn and be deprived of the many gifts your baby is prepared to give you. You and your baby are linked, not alien from each other. Your performance is a duet, not a solo. Babies watch intently for changes in your face and can instantly mimic expressions of sadness, happiness and surprise. Babies listen with incredible precision to adult speech. Films show that they lead as well as respond in dialog with parents.

If babies were lost in their own world, they would not be so good at analyzing and responding to sounds. They will stop eating, even when hungry, to listen to something interesting. If they hear other babies crying, they will usually be moved to cry with them. If they hear a recording of their own cry, they may suddenly stop crying—an indication that they recognize themselves.

Psychologists have been finding precursors of self-consciousness before the age of 2 or 3, when self-awareness had been thought to begin. One authority writes that infants discover they have a mind and others have minds when they are 9 months old. Developmental psychologist Colwyn Trevarthen believes that interaction between people is innately human and can be seen in newborns.

6. Babies Don't Need Their Mothers

This myth justifies keeping newborns in hospital nurseries and away from their mothers, a practice said to be necessary to ensure the babies' health. The opposite is true. From its mother the baby receives antibodies to ward off infections, as well as individual attention not available in a nursery. Lying next to mother helps the baby regulate its own body temperature, metabolic rate, hormone and enzyme levels, heart rate and breathing. Separation of mothers and newborns is a physical deprivation and an emotional trial.

Mothers know deep within themselves what scientists are just discovering—that relations between mothers and babies are mutual, reciprocal, even magical. A baby's cry triggers release of the mother's milk, the only perfect milk on earth for babies. Breastfeeding after delivery speeds expulsion of the placenta and protects the mother from hemorrhaging. In addition, there is a vital power in the baby's look and touch to turn on feelings and skills necessary for successful mothering. Babies need to hear their mother's voice, learn her sleep cycles, and recognize her body odors and facial expressions. Babies need to know their mothers are all right.

7. The Age Myth

Age is a status category that works against infants. Without realizing it, we tend to discount age groups different from our own: embryo, fetus, newborn, child, adolescent or elderly. Somehow these “others” seem woefully inferior, disabled, and incapable of being persons as we are.

Generally, younger means lower status. We think a baby is not real enough to listen to, to learn from, or to protect from inhumane treatment. The baby will become a person at some later time—perhaps when it can walk, talk, or go to school.

Myths aside, babies seem to act as individuals long before birth, engaging in spontaneous activity to suit themselves, expressing preferences for certain sounds, motions and tastes, and reacting to danger in the womb. Once born, from Day One, they engage in many complex activities integrating sounds and sights, regulating their work and rest, and demonstrating bona fide learning. Using their communication skills they engage you in dialog, establish intimate relationships, and, without your realizing it, they begin teaching you how to be a parent.

Emotion, a language for all ages, is worn on babies' faces. We are late in acknowledging this. Watch your infant for expressions of happiness, surprise, sadness, fear, anger, disgust, interest and distress. Such is the mind of a newborn baby! 🧡



*David Chamberlain, Ph.D., is a California psychologist, author and editor who has lectured on birth psychology in 20 countries. In 1974, he began using hypnotherapy to discover and resolve traumas arising in the womb and at birth. In landmark research with mother-child pairs in 1980, he demonstrated that birth memories were reliable memories. David served as president of APPPAH (the Association for Prenatal and Perinatal Psychology and Health) for eight years. His book, *The Mind of Your Newborn Baby*, currently travels the world in 13 languages. His new book, *Windows to the Womb: Revealing the Whole Baby From Conception to Birth* is now available. Although Dr. Chamberlain died this May, his legacy lives on in his writing and in the hearts and minds of all who knew him. View article resources and author information here: pathwaystofamilywellness.org/references.html.*